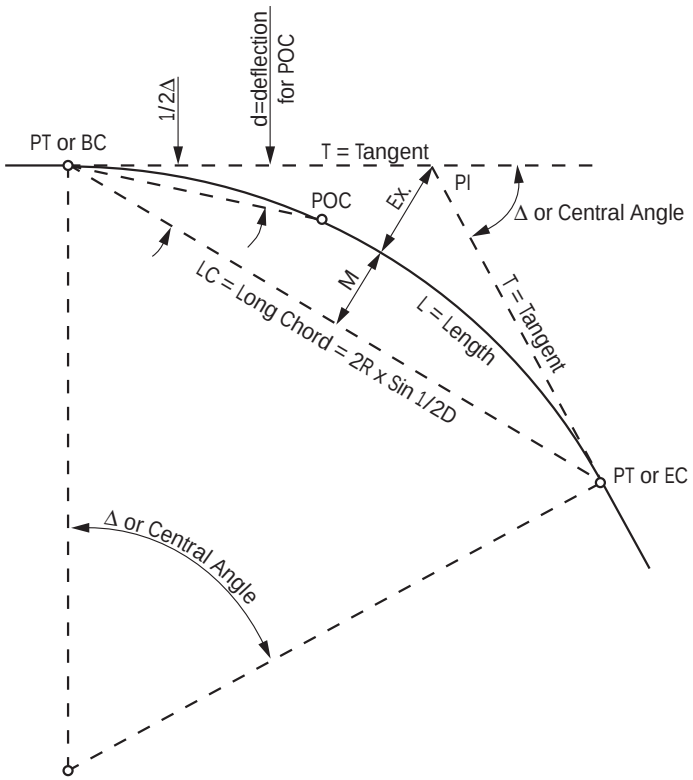
Curve Functions

R	=	Radius
T	=	Tangent Distance
PC	=	Point of Curvature
PT	=	Point of Tangency
Ex.	=	External
L	=	Length of Curve
LC	=	Long Chord
PI	=	Point of Intersection
D	=	Delta or Central Angle
d	=	Deflection for Point on Curve
M	=	Middle Ordinate



Curve Data required are: Δ,
Radius, Tangent, Length and External, obtained as follows;

Δ = Given; tan $\frac{1}{2}\Delta = \frac{T}{R}$

Δ in degrees = $\frac{L \times 3,437.7467}{R}$

R = Given; $R = \frac{T}{\tan \frac{1}{2}\Delta}$

T = R tan $\frac{1}{2}\Delta$

or L = $L = \frac{2\pi R\Delta}{360°}$ R func Δ. See Length of Arc Table on page 2-2.1.

Ex = R exsec $\frac{1}{2}\Delta$; M = R vers $\frac{1}{2}\Delta$

$d(\min) = \frac{1,718.88}{R}$ arc length, see Deflection and Chord Table on page 2-3.1.

exsec = sec – 1 = $\frac{1}{\cos} - 1$

vers = 1 – cos